The impact of the dietary protein matrix on post-prandial plasma amino acid responses in vivo in healthy young females

No registrations found.

Ethical review	Positive opinion
Status	Recruitment stopped
Health condition type	-
Study type	Interventional

Summary

ID

NL-OMON24741

Source
NTR

Brief title
Drinks & Bites study

Health condition

Protein digestion

Sponsors and support

Primary sponsor: Maastricht University
Source(s) of monetary or material Support: Maastricht University

Intervention

Outcome measures

Primary outcome

Post-prandial plasma amino acid concentrations

Secondary outcome

Peak post-prandial amino acid concentration, overall post-prandial glucose and insulin responses & hunger, desire to eat and fullness

Study description

Background summary

Protein intake is an essential stimulus for protein anabolism. Protein anabolism is modulated by plasma amino acid availability. Various aspects of the dietary protein matrix have been shown to impact the post-prandial amino acid response. However, it has not yet been investigated if ingestion of protein in a solid (bar) form results in different post-prandial amino acid responses when compared to a liquid (drink) form.

Study objective

We hypothesize that ingestion of a solid protein form results in a less rapid rise in circulating post-prandial plasma amino acids compared to a liquid protein form.

Study design

Blood samples will be taken before food intake and at timepoints 15, 30, 45, 60, 90, 120, 150, 180, 210 & 240 minutes after ingestion.

Intervention

- 20 gram milk protein drink (liquid)
- 20 gram milk protein bar (solid)

Contacts

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Eligibility criteria

Inclusion criteria

- Females
- Aged between 18-35 years
- Healthy, recreationally active (exercise at least 1 per two weeks and maximum 4 days a week)
- 18.5 ≤ BMI ≤ 30 kg/m2
- No physical limitations (i.e. able to perform all activities associated with daily living in an independent manner).

Exclusion criteria

- Smoking
- Lactose intolerant or allergies to milk proteins
- Musculoskeletal disorders
- Metabolic disorders
- Use of any medications known to affect protein metabolism (i.e. corticosteroids, nonsteroidal
anti-inflammatories, or prescribed acne medications).
- Chronic use of gastric acid suppressing medication or anti-coagulants
- Unstable weight over the last three months
- Diagnosed GI tract disorders or diseases
- Blood donation in the past 2 months
- Pregnant
- Third generation oral contraceptives

Study design

Design

Study type:	Interventional
Intervention model:	Crossover
Allocation:	Randomized controlled trial
Masking:	Open (masking not used)

Control:	N/A , unknown

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	12-09-2021
Enrollment:	12
Type:	Actual

IPD sharing statement

Plan to share IPD: Undecided

Ethics review

Positive opinion

Date:	27-08-2021
Application type:	First submission

Study registrations

Followed up by the following (possibly more current) registration

ID: 51160
Bron: ToetsingOnline
Titel:

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
NTR-new	NL9694
CCMO	NL77723.068.21
OMON	NL-OMON51160

Study results